

Application No.: 09/966557

Case No.: 55871US002

Remarks

This amendment is in response to the Office Action dated November 4, 2003. Claim 24 has been amended to correct a typographical error. Claims 10 and 12 have also been amended. Claims 1-26 are pending. No new matter has been added.

§ 103 Rejections

Claims 1-4, 6-12, and 18-26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over European Patent Application Publication No. 0487047 to Shingaki et al. (hereinafter "Shingaki") in view of U.S. Patent No. 5,568,283 to Mitsutake et al. (hereinafter "Mitsutake"). Claims 16 and 17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Shingaki in view of Mitsutake. Claims 5 and 13-15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Shingaki in view of Mitsutake and further in view of U.S. Patent No. 5,986,730 to Hansen et al. (hereinafter "Hansen"). The Applicants traverse these rejections.

None of the cited references teach or suggest a single film that comprises a polarizer element and a separate polarization rotator element. As the Office Action acknowledges, Shingaki does not disclose such a film. The Office Action references Figure 1 of Shingaki and asserts that this figure illustrates a polarizing element (reference numeral 1) and a separate polarization rotator element (reference numeral 5). There is no discussion in Shingaki of making a single film containing a polarizing element and a polarization rotator element. The Applicants believe that this reference is consistent with the Background section of the Applicants' patent application which explains that polarizer elements and polarization rotator elements are typically manufactured in ways that do not facilitate their production as a single film. Typically, each of these elements is brought together separately in the final display construction, consistent with Shingaki.

Because of the deficiencies of the Shingaki reference, the Office Action turns to Mitsutake. It is unclear to the Applicants what Mitsutake adds to the disclosure of Shingaki because Mitsutake neither teaches nor suggests forming a single film having a polarizer element and a polarization rotator element. The Office Action asserts that Mitsutake discloses a "filmic device" that "can reasonably viewed as a single film." The Office Action references Figures 3, 5, and 6 as showing such "filmic devices".

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The Applicants respectfully submit that the devices of Figures 3, 5, and 6 of Mitsutake are not films. Although some of the individual components of the illustrated devices are characterized as films, each of these devices includes two transparent glass substrates (reference numerals 301 and 311) with each glass substrate having a one millimeter thickness. The Applicants submit that one of skill in the art would not consider any of the devices illustrated in Figures 3, 5, and 6 of Mitsutake to be "a single film". The presence of the glass substrates is inconsistent with the general properties understood to accompany films. Because none of the references teach or suggest a film having both a polarizer element and a polarization rotator element, the Applicants submit that claims 1-26 are patentable over the cited references. The Applicants respectfully request withdrawal of the rejections.

Moreover, the dependent claims include other patentable elements. For example, claims 2-5 and 26 recite that the film includes a second polarizer element. The Office Action asserts that Shingaki illustrates two polarizers and a half-wave retarder. There is, however, no teaching or suggestion in the references regarding the formation of two polarizer elements and a polarization rotator element into a single film.

Claim 8 recites that the surface of the polarizer element facilitates alignment of the polarization rotator element (e.g., the polarizer element acts as an alignment layer for the polarization rotator element). Such an arrangement requires that the polarizer element and polarization rotator element be in contact. This is not taught or suggested in Shingaki.

Claims 10 and 11 recite that the polarization rotator element comprises a light absorbing material that is different from the liquid crystal material of the element (claim 10) and the light absorbing material is aligned within the polarization rotator element to substantially absorb light having a first polarization and to substantially transmit light having a second polarization orthogonal to the first polarization. None of the cited references teach or suggest polarization rotator elements containing such light absorbing material.

Claim 12 recites that the polarization rotator element comprises a light diffusing material that is different from the liquid crystal material of the element. None of the cited references teach or suggest polarization rotator elements containing such light diffusing material.

Claims 18-20 recite a polarizer element that preferentially transmits a substantial portion of light having a first circular polarization. None of the cited references teach or suggest such a

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polarizer element. All of the cited references appear to use linear polarizers. The Office Action refers to the FLC molecule layer of Shingaki. The Applicants are unclear regarding the Office Action's reference because Shingaki teaches specifically about linearly polarized light and the rotation of that linear polarization to a different linear orientation. The light still remains linearly polarized. There is no discussion regarding circularly polarized light. Moreover, there is no indication that the FLC molecule layer acts as a polarizer. In fact, polarizers are placed on either side of the FLC molecule layer.

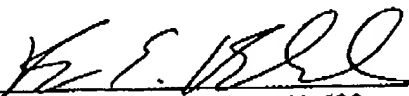
Claims 22-24 recite a separate polarizer disposed between the film (which has a polarizer element and a polarization rotator element) and a liquid crystal cell. The Applicants have been unable to discern which device construction shown in the references illustrates the recited structure. If this rejection is to be maintained, the Applicants request that the Examiner indicate which configuration contains (in the following physical order): a) light source, b) film comprising a polarizing element and a separate polarization rotator element, c) a polarizer, and d) a liquid crystal cell as recited in claims 22-24. None of the cited references teach or suggest such a configuration.

For at least all of the forgoing reasons, the Applicants submit that the present claims 1-26 are patentable over the cited references. Accordingly, the Applicants request withdrawal of these rejections.

In view of the above, it is submitted that the application is in condition for allowance. Reconsideration of the application is requested. Allowance of claims 1-26, as amended, at an early date is solicited.

Respectfully submitted,

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Date

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